

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently Amended) Circuitry for providing a supply voltage to an operational amplifier, comprising:

a switch having a plurality of inputs connected to a respective plurality of supply voltages, and an output connected to a supply voltage terminal of the operational amplifier, ~~wherein the input of the switch is selected in dependence on the voltage to which a signal is to be amplified.~~ amplifier; and

a digital to analogue converter for receiving digitised values and for generating a corresponding analogue signal for amplification by the operational amplifier;

wherein an input of the switch is selected in dependence on an average digitised value of the corresponding analogue signal and a voltage level to which the corresponding analogue signal is to be amplified.

2-5. (Canceled)

6. (Currently Amended) Circuitry according to claim 2 1, wherein the input of the switch is selected by a control signal generated in dependence on the digitised values.

7. (Currently Amended) Circuitry according to claim 4 1, wherein the digitised values are stored in the digital to analogue converter.

8. (Currently Amended) Circuitry according to claim 1, wherein the switch has a first input and a second input connected respectively to respective a first supply voltage and a second supply voltages voltage, the first supply voltage being lower than the second supply voltage, wherein the input of the switch is selected to be the second input if the voltage level to which the signal is to be amplified exceeds a predetermined level.

9. (Currently Amended) Circuitry ~~for providing a supply voltage to an operation amplifier~~ according to ~~any~~ claim 1, further comprising:

a ~~further~~ second switch having a plurality of inputs connected to a respective plurality of ~~further~~ second supply voltages, and an output connected to ~~further~~ a second supply voltage terminal of the operational amplifier, wherein ~~the~~ an input of the ~~further~~ second switch is selected in dependence on the voltage level to which the signal is to be amplified.

10. (Original) An xDSL modem including circuitry according to claim 1.

11. (Currently Amended) A method of providing a supply voltage to an operational amplifier, comprising the steps of:

providing a plurality of supply voltages;

converting digitised values into an analogue signal for amplification by the operational amplifier;

selecting one of the plurality of supply voltages in dependence on ~~the~~ an average digitised value of the analogue signal and a voltage level to which a the analogue signal is to be amplified; and

connecting the selected one of the plurality of supply voltages to a supply voltage terminal of the operational amplifier.

12-15. (Canceled)

16. (Currently Amended) The method of claim ~~12~~ 11, wherein the step of selecting includes generating a control signal in dependence on the digitised values.

17. (Currently Amended) The method according to claim 11 in which there is provided a first supply voltage and a second supply voltage, the first supply voltage being lower than the second supply voltage, wherein the second supply voltage is selected if the voltage level to which the signal is to be amplified exceeds a predetermined level.

18. (Currently Amended) A method of providing a supply voltage to an operational amplifier according to claim ~~11~~ 11, further comprising the steps of:

providing a plurality of ~~further~~ second supply voltages;

selecting one of the ~~further~~ plurality of second supply voltages in dependence on the voltage level to which a the signal is to be amplified; and

connecting the selected one of the plurality of ~~further~~ second supply voltages to a ~~further~~ second supply voltage terminal of the operational amplifier.

19. (Original) A method of providing a supply voltage to an operational amplifier of an xDSL modem according to claim 11.

20. (New) A method of providing a supply voltage to an operational amplifier, comprising the steps of:

providing a first supply voltage and a second supply voltage;

determining an average value of an input signal to the operational amplifier; and

connecting one of the first supply voltage and the second supply voltage to a first power supply terminal of the operational amplifier in response to the average value.

21. (New) The method of claim 20, further comprising the step of:

converting the input signal from a digital form to an analogue form.

22. (New) The method of claim 21, wherein the analogue form of the input signal is a differential form.

23. (New) The method of claim 20, further comprising the step of:

producing a control signal from the input signal.

24. (New) The method of claim 23, wherein the control signal determines which one of the first supply voltage and the second supply voltage is to be connected to the first power supply terminal.

25. (New) The method of claim 20, further comprising the steps of:

providing a third supply voltage and a fourth supply voltage; and

connecting one of the third supply voltage and the fourth supply voltage to a second power supply terminal of the operational amplifier in response to the average value.

26. (New) The method of claim 25, further comprising the step of:

converting the input signal from a digital form to an analogue form.

27. (New) The method of claim 26, further comprising the step of:

producing a control signal from the input signal.

28. (New) The method of claim 27, wherein the control signal determines which one of the third supply voltage and the fourth supply voltage is to be connected to the second power supply terminal.